

## REMARKS

### Introduction

In response to the Office Action dated May 2, 2008, Applicants have amended claims 1, 5, 8, and 10. Support for amended claim 1 is found in, for example, Fig. 1 and pg. 1, lines 5-6; pg. 8, lines 22-24. Support for amended claim 5 is found in, for example, pg. 16, lines 4-9. Claim 8 has been amended to depend directly from claim 1. Support for amended claim 10 is found in, for example, pg. 23, lines 5-12. Care has been taken to avoid the introduction of new matter. In view of the foregoing amendments and the following remarks, Applicants respectfully submit that all pending claims are in condition for allowance.

### Claim Rejection Under 35 U.S.C. § 112

Claims 5, 8 and 10 were rejected under 35 U.S.C. §112, first paragraph, as purportedly being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The Examiner contends that in claim 5 there is a lack of antecedent basis for “the average grain size.”

Applicants respectfully submit that the rejection is moot in view of the amendment of claim 5 that deleted “the average grain size.”

The Office Action asserts that in claim 8, the processing step contradicts the processing step of claim 2.

Applicants respectfully submit that the rejection is moot in view of the amendment of claim 8 that amended claim 8 to depend directly from claim 1.

The Office Action asserts that in claim 10, step 4 is purportedly indefinite, as it is not clear whether the porous molded product or the nonwoven fabric was plated once on the entire surface followed by a plating catalyst then selectively plated over the plating catalyst.

Applicants respectfully submit that the rejection is moot in view of the amendment of claim 10.

Amended claim 10 recites, in part, “...*performing a selective plating to one side or both sides of the porous molded product or those of the nonwoven fabric by selectively forming a plated layer over the through portions or the recessed portions where the plating catalyst has been deposited.*”

Withdrawal of the foregoing rejections is respectfully requested.

**Claim Rejection Under 35 U.S.C. § 102**

Claims 12 and 13 are rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,252,383 to Fukutake et al. (“Fukutake”).

The Office Action asserts that Fukutake teaches a printed circuit board comprising of a polymeric substrate 1, a through hole 4, and a metal where the through hole is formed in the polymer substrate which is a porous flouoresin sheet 1.

Fukutake fails to disclose or suggest, “an electric circuit component comprising a patterned porous molded product or nonwoven fabric having a plated layer in a pattern, characterized in that in a film-like or sheet-like porous molded product or nonwoven fabric formed from an organic polymer material, through portions or recessed portions in a pattern, or both of these are formed, and that the plated layer is selectively formed on the surfaces of the through portions or the recessed portions, or both of these,” as recited by claim 12.

As anticipation under 35 U.S.C. § 102 requires that each and every element of the claim be disclosed, either expressly or inherently (noting that “inherency may not be established by probabilities or possibilities,” *Scaltech Inc. v. Retec/Tetra*, 178 F.3d 1378 (Fed. Cir. 1999)), in a single prior art reference, *Akzo N.V. v. U.S. Int’l Trade Commission*, 808 F.2d 1471 (Fed. Cir. 1986), based on the forgoing, it is submitted that Fukutake does not anticipate claim, nor dependent claim 13. The dependent claim is allowable for at least the same reasons as claim 12.

**Claim Rejection Under 35 U.S.C. § 103**

Claims 1-11 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,498,467 to Meola in view of U.S. Patent No. 5,684,065 to Hiraoka et al. (Hiraoka).

Applicants traverse.

The Office Action asserts that Meola teaches a process for producing conductive areas in a porous member to form a printed circuit board by treating the porous member with a liquid radiation sensitive composition, placing an opaque mask over selected areas of the porous member, exposing the treated member to UV radiation, and removing the mask from the porous member. The Examiner contends that Meola teaches applying a reactive metallic cation replacement solution that is equivalent to the claimed plating catalyst to the porous member to provide a suitable stabilized area to receive a conductive metal. The Examiner contends that after the metallic cation replacement solution is deposited, the porous member is electrolessly plated with a conductive metal salt.

The Examiner acknowledges that Meola does not teach the use of spraying a fluid or spraying a fluid containing abrasive grains from above the mask. The Examiner relies on Hiraoka in an attempt to cure the admitted deficiencies of Meola.

The Examiner contends that Hiraoka teaches irradiating a fluorine containing resin-molded article with a laser beam through a basic solution. The Examiner concludes that after the laser beam irradiation through a basic solution, the molded article has an improved surface for electroless plating of a metal.

The Examiner acknowledges that neither Fukutake nor Meola disclose an abrasive fluid with or without abrasive grains for forming through holes or recesses in a substrate. The Examiner contends that in view of the prior art teachings, one of ordinary skill in the art would use an abrasive fluid with or without abrasive grains for forming through holes or recesses in a substrate because finding a workable method only involves routine experimentations.

It is the Applicants' understanding of the Examiner's position that Hiraoka discusses irradiating the laser beam over the surface of the porous molded product to modify the surface. The porous member of Meola is replaced by a molded fluorine containing article of Hiraoka that is irradiated on its surface with a laser beam through a basic solution, and further modified with an abrasive fluid for forming through holes or recesses due to alleged routine experimentation to provide the claimed subject matter, even though Meola and Hiraoka do not disclose or suggest, placing a mask having through holes in a pattern, spraying a fluid or a fluid containing abrasive grains from above the mask or forming through holes or recessed portions, as required by amended claims 1 and 10. Therefore, Hiraoka cannot be relied upon to cure the admitted deficiencies of Meola. As none of the references disclose the subject matter of amended claims 1 and 10, thus, the combination of Meola and Hiraoka would be missing the aforementioned features of the claimed subject matter. Moreover, it would not have been obvious to modify the cited references to yield the subject matter of amended claims 1 and 10.

In view of the position taken in the Office Action, it is readily apparent that the Examiner has engaged in *improper hindsight reasoning* in reaching the conclusion of obviousness.

In rejecting a claim under 35 U.S.C. § 103, the Examiner is required to discharge the initial burden by, *inter alia*, making **"clear and particular"** factual findings as to a **specific understanding or specific technological principle** which would have **realistically** impelled one having ordinary skill in the art to modify an applied reference to arrive at the claimed invention based upon facts, -- not generalizations. *Ruiz v. A.B. Chance Co.*, 234 F.3d 654, 57 USPQ2d 1161 (Fed. Cir. 2000); *Ecolocem Inc. v. Southern California Edison, Co.*, 227 F.3d 1361, 56 USPQ2d 1065 (Fed. Cir. 2000); *In re Kotzab, supra*; *In re Dembiczak*, 175 F.3d 994, 50 USPQ2d 1614 (Fed. Cir. 1999). That burden has not been discharged, as the Examiner has provided no factual basis for substituting a mask having through holes in a pattern, spraying a fluid or a fluid containing abrasive grains from above the mask, **and** forming through holes to which the opening shapes of the through holes of the masks have been transferred, as required by amended claims 1 and 10.

The only teaching of the claimed process including a mask having through holes in a pattern and spraying a fluid containing abrasive grains from above the mask to form through holes is found in Applicants' disclosure. However, the teaching or suggestion to make a claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on Applicants' disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). The Examiner's retrospective assessment of the claimed invention and use of unsupported conclusory statements are not legally sufficient to generate a case of *prima facie* obviousness. The motivation for modifying the prior art must come from the prior art and must be based on facts. *In re Lee*, 277 F.3d 1338 (Fed. Cir. 2002).

According to the claimed subject matter per amended claims 1 and 10, a fluid or a fluid containing abrasive grains is sprayed from above the mask to form through portions or recessed portions. Thereby, as taught in the instant specification, fluid processing onto a porous material decreases damage to the mask (*see, e.g.,* pg. 9, lines 5-15). However, Meola and Hiraoka do not disclose or suggest this, and apparently are unaware of the unexpected improvement in forming fine trenches and through holes in a porous structure made possible by the claimed method.

As Meola and Hiraoka do not disclose the same method of manufacturing a patterned porous molded product or nonwoven fabric as disclosed by the present inventors, and even if combined still fail to disclose or suggest the elements recited by claims 1 and 10, the combination of the Meola and Hiraoka does not render the method as recited by claims 1 and 10 obvious.

Withdrawal of the foregoing rejections is respectfully requested.

### **Double Patenting**

Claims 1-11 have been provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-4, 16 and 28 of copending Application No. 10/559,580.

Claims 1-11 have been provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-3 and 6-13 of copending Application No. 11/660,993.

Claims 1-11 have been provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-21 of copending Application No. 10/551,459.

Claims 1-11 have been provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-5 of copending Application No. 11/994,115.

Applicants respectfully request that the Examiner hold these rejections in abeyance until allowable subject matter is obtained in the present application.


**Conclusion**

In view of the above amendments and remarks, Applicants submit that this application should be allowed and the case passed to issue. If there are any questions regarding this Amendment or the application in general, a telephone call to the undersigned would be appreciated to expedite the prosecution of the application.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

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